

**NONAQUEOUS ELECTROLYTE AND NONAQUEOUS ELECTROLYTE SECONDARY BATTERY (11-339851)****Publication Number:** JP 11339851 A , December 10, 1999**Inventors:**

- HIBARA AKIO
- TORIIDA MASAHIRO
- TAN HIROAKI

**Applicants**

- MITSUI CHEM INC

**Application Number:** 10-150420 (JP 98150420) , May 29, 1998**International Class:**

- H01M-010/40

**Abstract:**

**PROBLEM TO BE SOLVED:** To improve charge/discharge characteristic from a low temperature to normal temperature by allowing a nonaqueous solvent contain a vinylene carbonate derivative or the like expressed by a prescribed formula, and setting the ratio of the vinylene carbonate in the nonaqueous solvent to be within a specified volume range. **SOLUTION:** This nonaqueous solvent contains at least a vinylene carbonate derivative expressed by formula I (R1, R2, a hydrogen atom or a 1-3C alkyl group are the same or different), one kind of cyclic carbonate selected from propylene carbonate, ethylene carbonate and butylene carbonate or a mixture of them, and an ester derivative expressed by formula II (R3 indicates a hydrogen atom and the alkyl group, methoxy group, ethoxy group or propoxy group having 1-3C, and R4 indicates the alkyl group of 1-4C). The ratio of the vinyl carbonate in the nonaqueous solvent is set within the range of 0.1-4 vol.%. **COPYRIGHT:** (C) 1999,JPO

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